



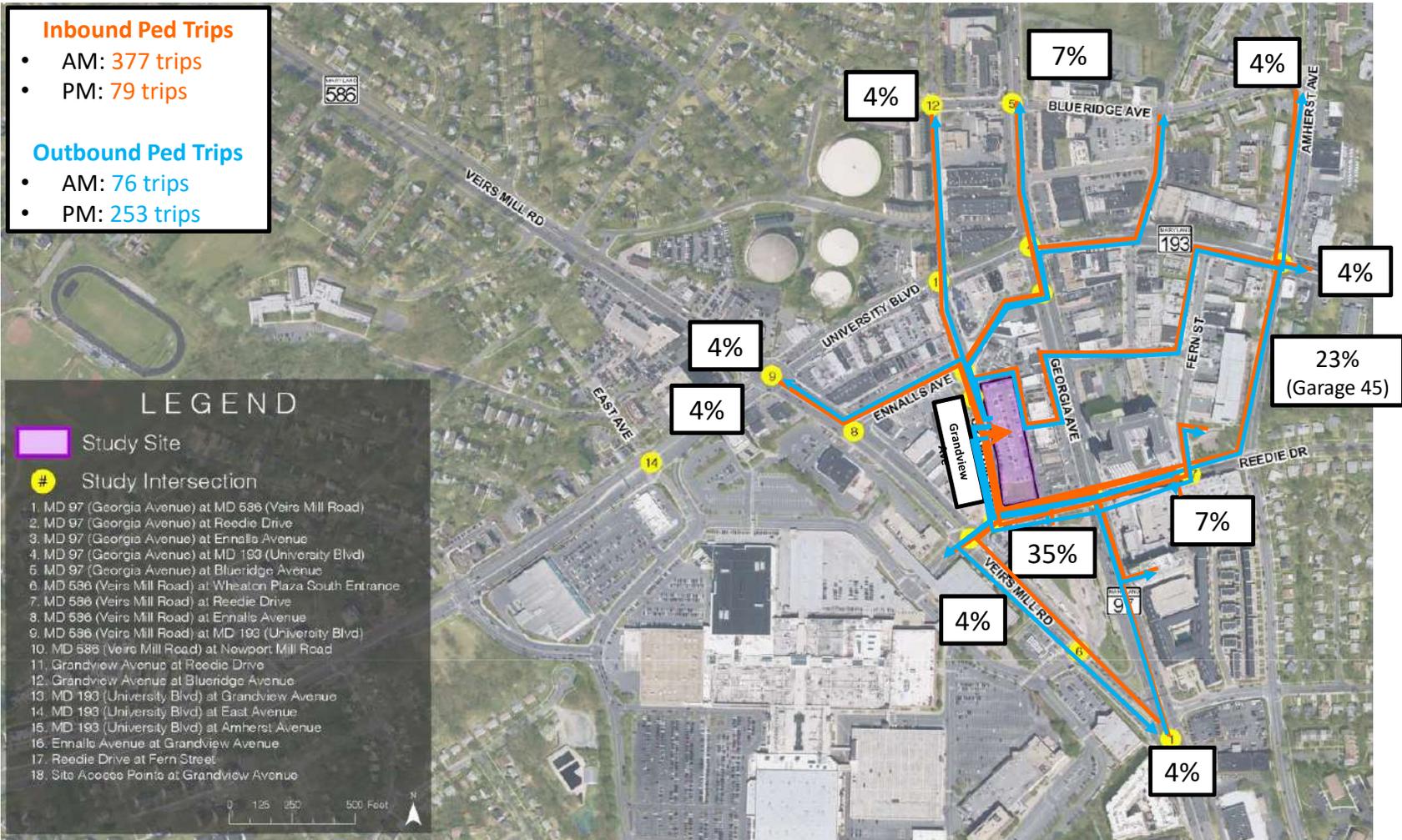
Wheaton Triangle Reedie Drive Closure Impacts

February 11, 2020

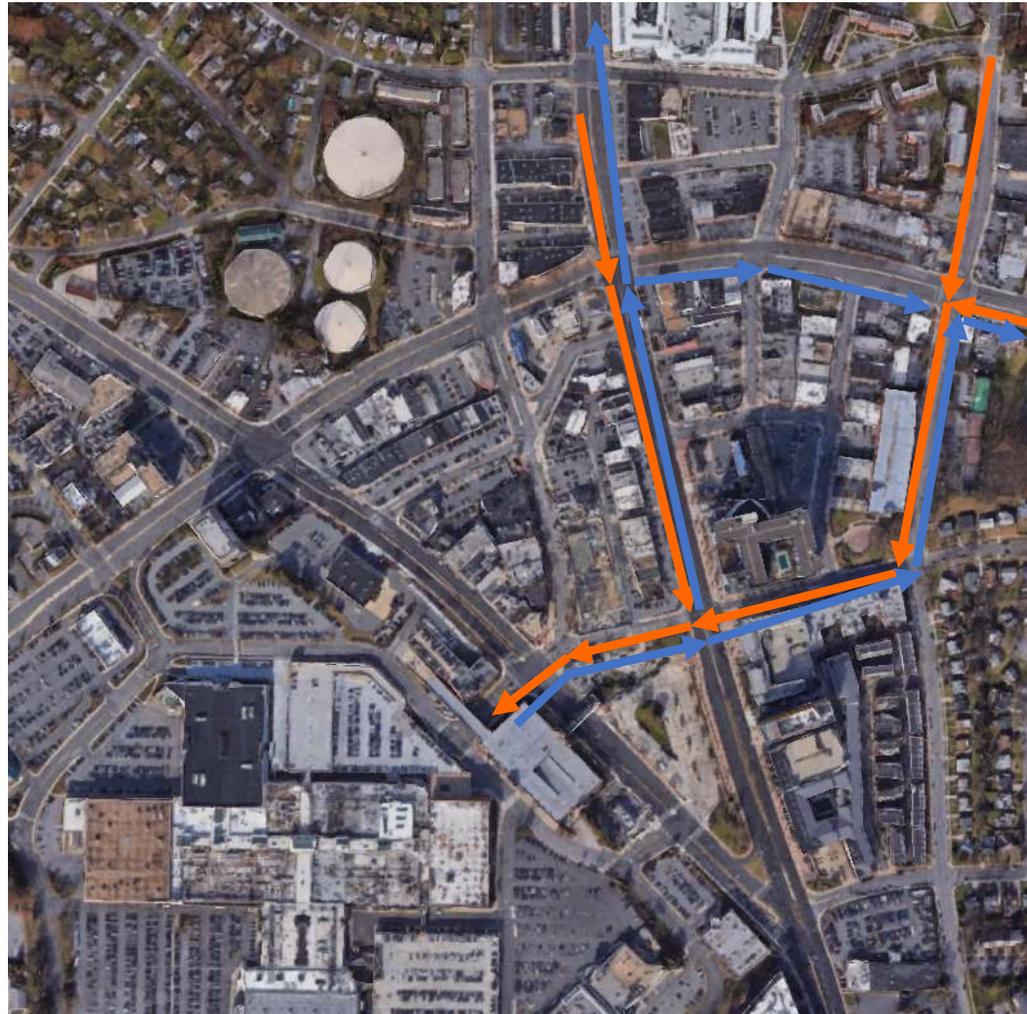
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Pedestrian Flows – Inbound and Outbound



Vehicle Flows – Inbound and Outbound



The majority of existing Reddie Drive traffic is accessing the Wheaton Mall

Reddie Drive Open

Vehicle Flows – Inbound and Outbound

The majority of existing
Reedie Drive traffic is
accessing the Wheaton
Mall

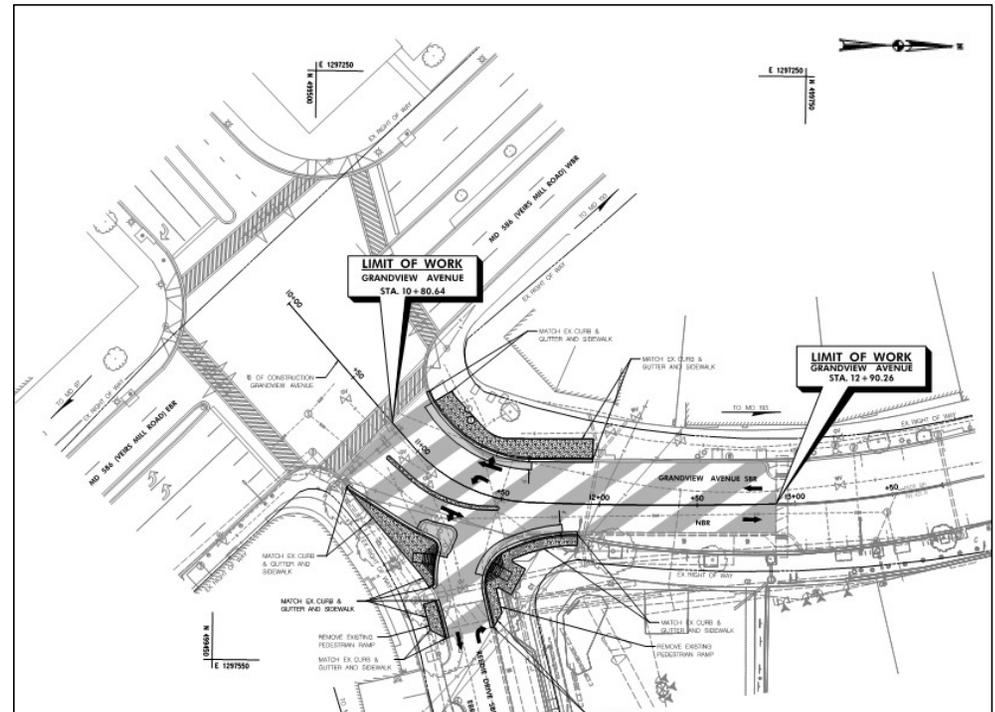


Reedie Drive Closed

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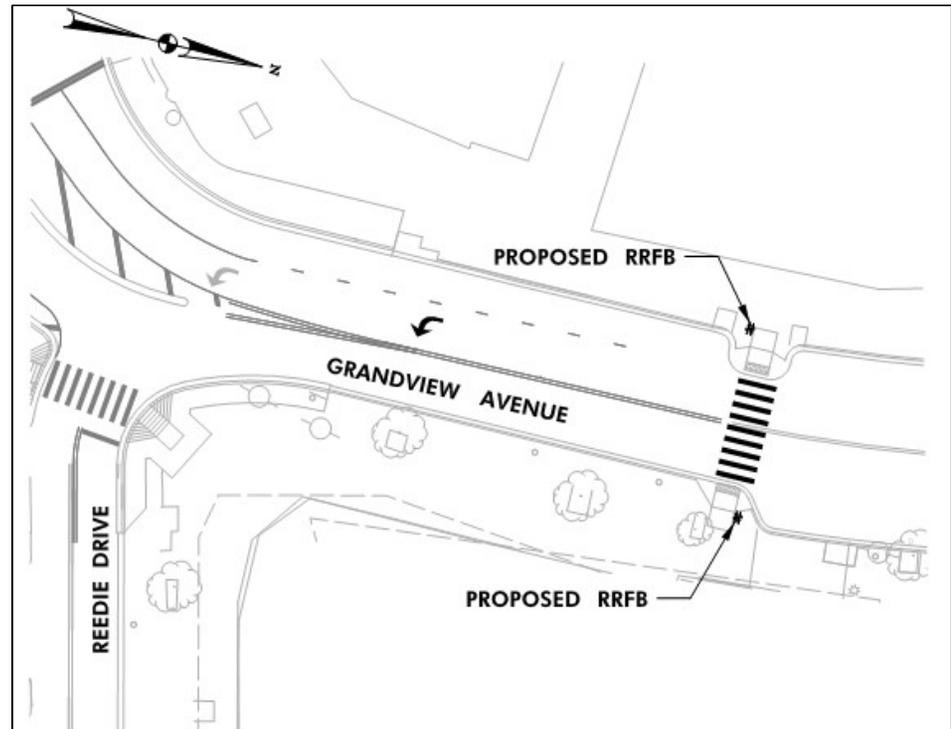
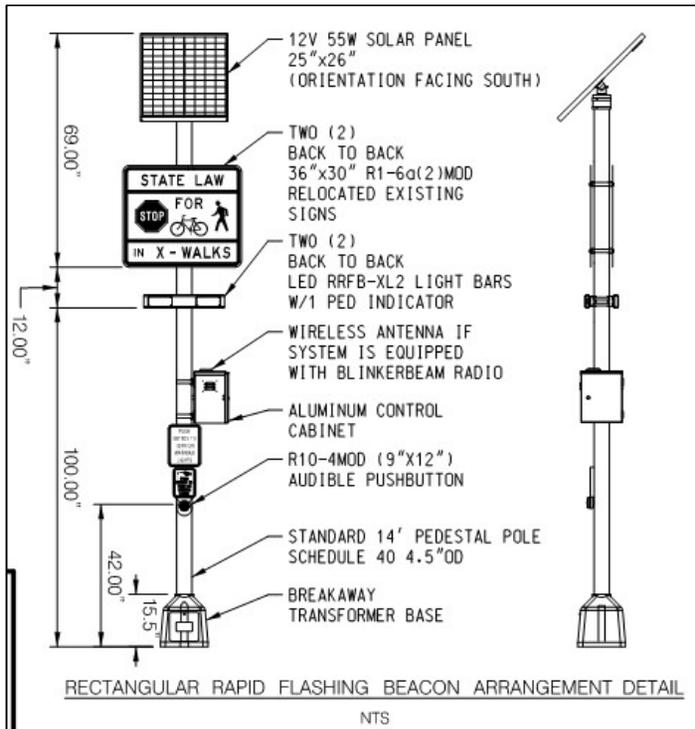
Reedie Drive at Grandview Avenue Improvements

- Realign Grandview Avenue as the main street at Reedie Drive, removing the existing stop sign on Grandview Avenue
- Restripe the Grandview Avenue approach at MD 586 from the existing three lanes to two lanes (one left turn lane and one shared through/right turn lane)
- Install midblock crosswalk on Grandview Avenue and install Rectangular Rapid Flashing Beacon (RRFB) and associated signing at midblock crosswalk



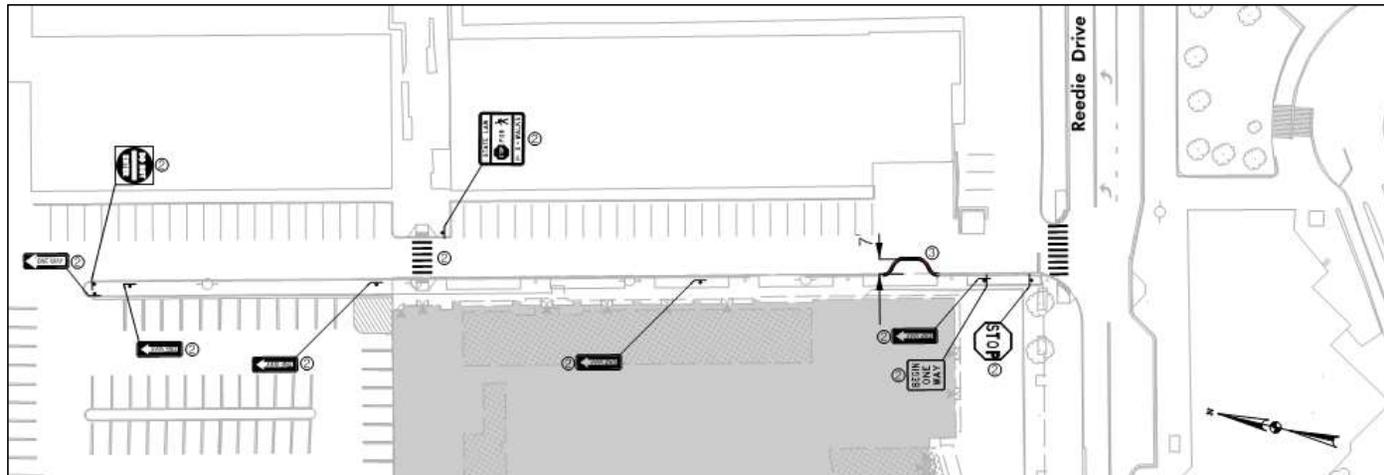
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Grandview Avenue Proposed RRFB Improvement



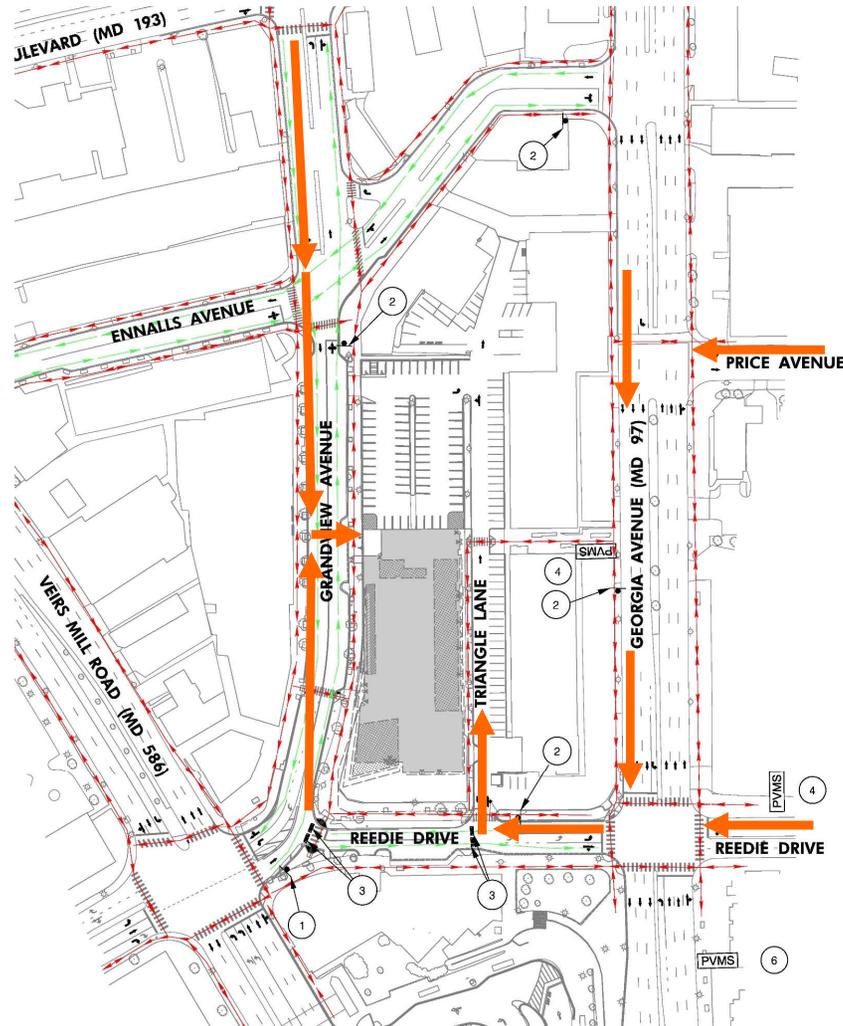
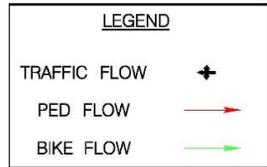
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Triangle Lane Improvements



- Install signing and pavement markings needed to maintain one-way traffic on Triangle Lane
- Construct a bump out to emphasize one-way traffic on Triangle Lane

Vehicle Access to Triangle Plaza for Reedie Drive Closures



| SIGN SCHEDULE | | |
|---------------|------------|--|
| NO. | SIGN PANEL | QUANTITY |
| 1 | | GM-1 36" x42" 1 EA |
| 2 | | GM-2 36" x42" 2 EA |
| 3 | | R11-2 4 EA TYPE III BARRICADE |
| 4 | | 2 EA |
| 5 | | 2 EA |
| 6 | | 1 EA |

PVMS NO.4 MESSAGES

DURING CLOSURE

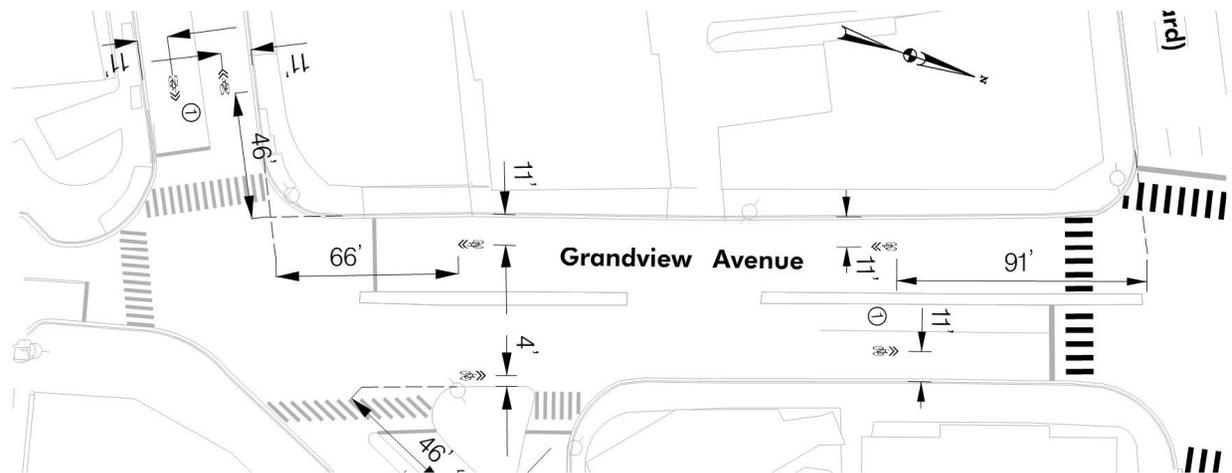
| | |
|-----------|--|
| DISPLAY 1 | |
| DISPLAY 2 | |

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Grandview Avenue Improvements

Recommended Improvements:

- Install shared lane markings on Grandview Avenue between Ennalls Avenue and MD 586 (Veirs Mill Road)

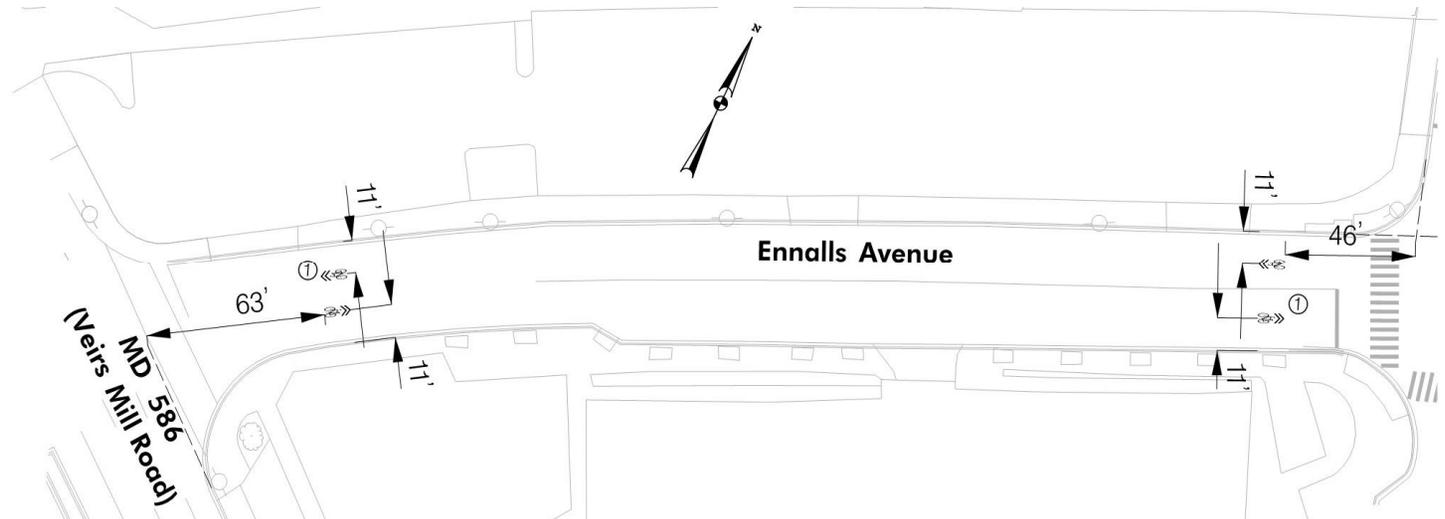


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Ennalls Avenue Improvements

Recommended
Improvements:

- Install shared lane markings on Ennalls Avenue between MD 586 (Veirs Mill Road) and MD 97 (Georgia Avenue)

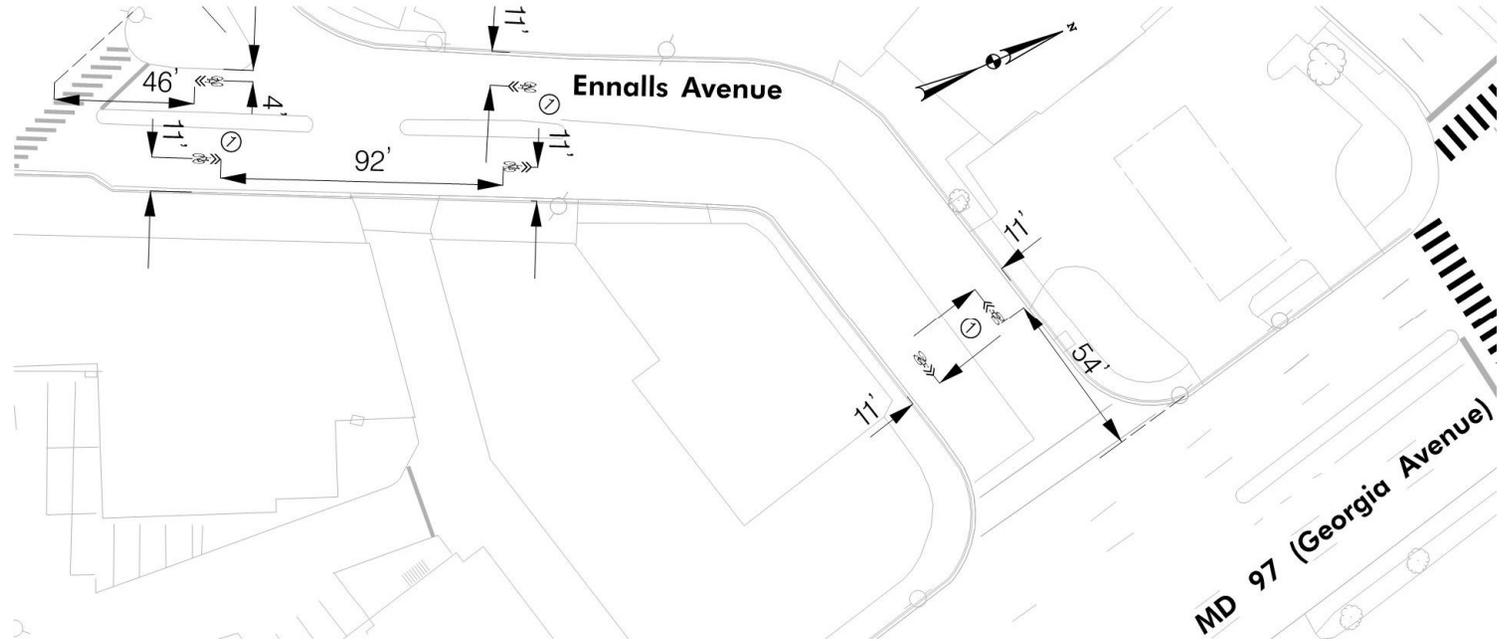


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Ennalls Avenue Improvements

Recommended
Improvements:

- Install shared lane markings on Ennalls Avenue between MD 586 (Veirs Mill Road) and MD 97 (Georgia Avenue)



Areawide Traffic Impacts of Reedie Drive Closure

Overall Intersection LOS Comparison: 2018 Build, 2018 Build with Reedie Drive Closure, and 2018 Reedie Drive Closure with Intersection Improvements

| Intersection | AM LOS: 2018 Build | AM LOS: 2018 Build with Reedie Closure | AM LOS: 2018 Reedie Closure with Imp. | PM LOS: 2018 Build | PM LOS: 2018 Build with Reedie Closure | PM LOS: 2018 Reedie Closure with Imp. |
|---|--------------------|--|---------------------------------------|--------------------|--|---------------------------------------|
| MD 97 at MD 586 | B | C | B | C | C | C |
| MD 97 at Reedie Drive | B | C | C | B | B | B |
| MD 97 at Ennalls Ave* | B | B | B | B | B | B |
| MD 97 at MD 193 | C | C | C | C | C | C |
| MD 97 at Blueridge Ave | B | B | B | C | C | C |
| MD 586 at Metro Bus Loop | B | B | B | C | C | C |
| MD 586 at Reedie Drive (future Grandview Drive) | B | B | B | C | D | C |
| MD 586 at Ennalls Ave* | B | B | B | B | C | B |
| MD 586 at MD 193 | E | E | E | E | D | D |
| MD 596 at Newport Mill Rd | C | C | C | B | B | B |
| Grandview Ave at Reedie Drive* | A | A | A | B | A | A |
| Grandview Ave at Blueridge Ave* | A | A | A | C | C | D |
| MD 193 at Grandview Ave | B | B | B | C | D | C |
| MD 193 at East Ave | A | B | B | B | B | B |
| MD 193 at Amherst Ave | B | B | B | C | C | C |
| Grandview Ave at Ennalls Ave* | A | B | B | D | E | E |
| Reedie Drive at Fern St | A | A | A | B | B | B |
| Grandview Ave at Site Driveway | B | B | B | B | B | B |

Areawide Traffic Impacts of Reedie Drive Closure Critical Intersection Movements

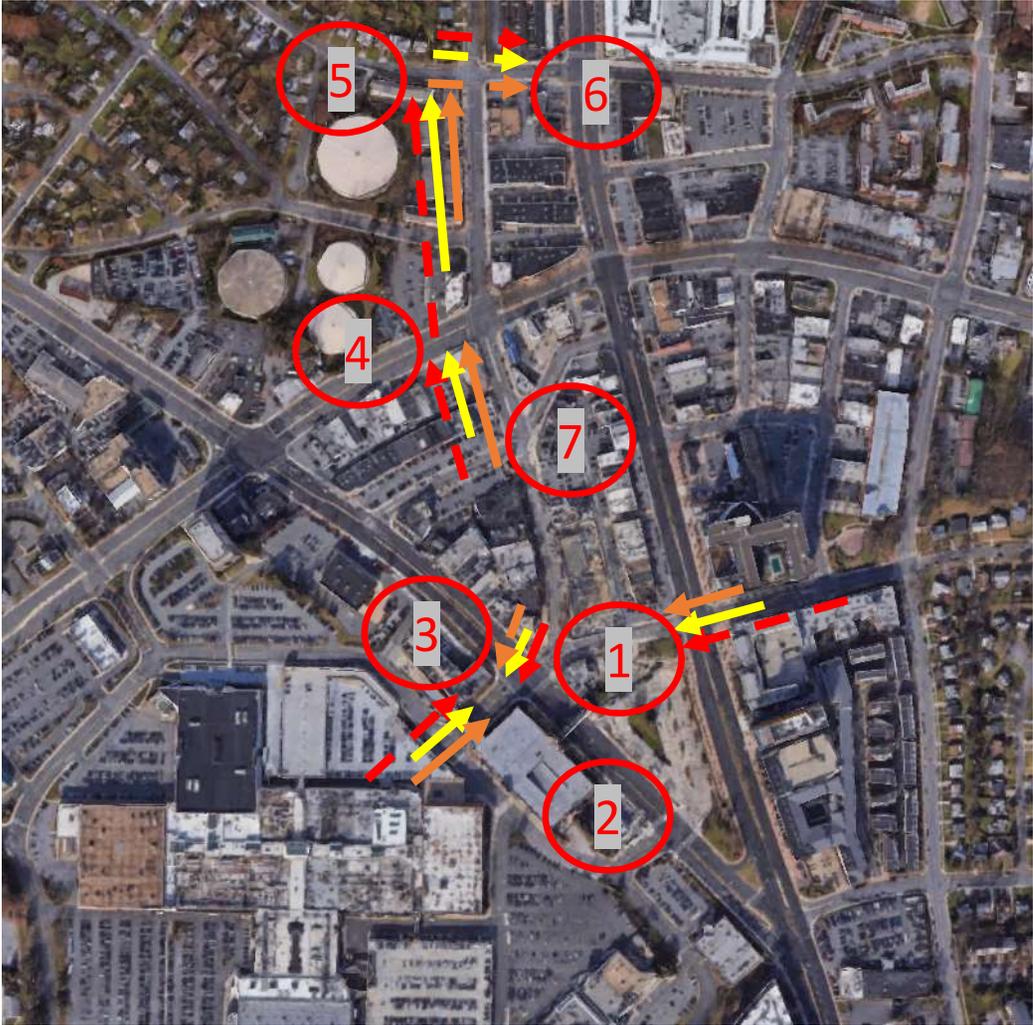
| Turning Movement LOS/Delay Comparison: 2018 Build, 2018 Build with Reedie Closure, and 2018 Reedie Closure with Intersection Improvements | | | | | | |
|---|---------------------------------|---|---|---------------------------------|--|---|
| Turning Movement | AM LOS/Delay (s): 2018 Build | AM LOS/Delay (s): 2018 Build with Reedie Closure | AM LOS: 2018 Reedie Closure w/ Improvements | PM LOS/Delay (s): 2018 Build | PM LOS/Delay (s): 2018 Build with Reedie Closure | PM LOS: 2018 Reedie Closure w/ Improvements |
| MD 97 at Reedie Drive: WB Left | E (75) | F (>150) or F (89) | E (68) | D (53) | F (83) | E (69) |
| MD 97 at MD 193: SB Left | N/A | N/A | N/A | F (84) | F (100) | F (85) |
| MD 586 at Reedie Drive: EB Left | N/A | N/A | N/A | D (54) | F (>150) or E (57) | E (59) |
| Grandview Ave at Ennalls Ave: NB Thru/Left/Right | N/A | N/A | N/A | E (36) | F (64) | F (64) |

*Note: Cells with two LOS and delay values reflect what the operations would be with and without optimized signal splits.

Areawide Traffic Impacts of Reedie Drive Closure Critical Intersection Movements

| 95 th Percentile Queue Comparison – Critical Movements: 2018 Build, 2018 Build with Reedie Closure, and 2018 Reedie Closure with Intersection Improvements | | | | | | |
|---|---|--|--|---|--|--|
| Turning Movement | AM Queue (ft)/Storage (ft): 2018 Build AM | AM Queue (ft)/Storage (ft): 2018 Build with Reedie Closure | AM Queue (ft)/Storage (ft): 2018 Reedie Closure w/Imp. | PM Queue (ft)/Storage (ft): 2018 Build PM | PM Queue (ft)/Storage (ft): 2018 Build with Reedie Closure | PM Queue (ft)/Storage (ft): 2018 Reedie Closure w/Imp. |
| MD 97 at Reedie Drive: WB Left | 225/175 | 225+/175 | 250/300 | 225/175 | 225+/175 | 250/300 |
| MD 97 at Reedie Drive: EB Thru/Right | N/A | N/A | N/A | 325/320 | N/A (Improvement from 2018 Build) | N/A (Improvement from 2018 Build) |
| MD 586 at Metro Access/Mall Entrance: WB Thru | N/A | N/A | N/A | 300/264 | 350+/264 | 325/264 |
| MD 586 at Reedie Drive: WB Reedie Drive Left | N/A | N/A | N/A | 150+/55 | 125/600 | 100/600 |
| MD 193 at Grandview Avenue: NB Thru/Right | N/A | N/A | N/A | 350/250 | 350+/250 | 250/250 |
| Grandview Avenue at Blueridge Avenue: NB Right | N/A | N/A | N/A | 375/600 | 750+/600 | 525/600 |
| MD 97 at Blueridge Avenue: EB Left | N/A | N/A | N/A | 275+/250 | 275+/250 | 275+/250 |

Anticipated Vehicle Queue Lengths



Existing - Queue Length

Reedie Drive Closed - Queue Length

With Improvements - Queue Length

— Normal
- - Significant Issues

Improvement on next page

Planned Operational Improvements

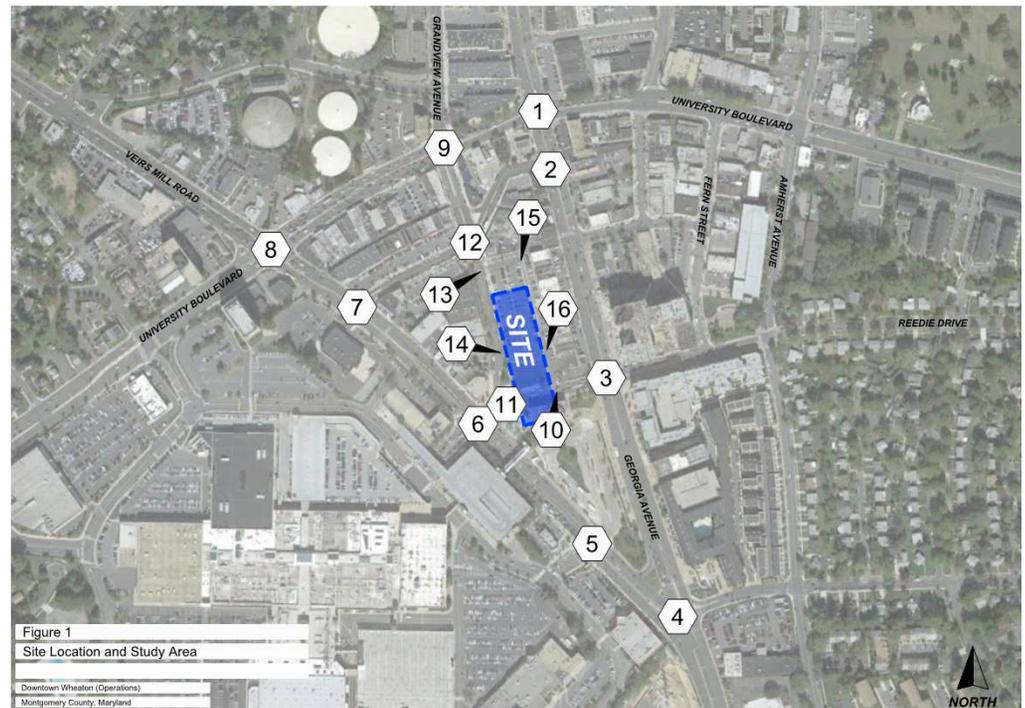
- 1
- 2
- 3
- 4
- 5
- 6
- 7

| Critical Intersection | Improvement | Extent of Traffic Mitigation |
|---|--|--|
| MD 97 at Reddie Drive | Split Phase signal on Reddie Drive approaches; convert westbound thru/right lane to westbound thru/right/left lane | Full Mitigation |
| MD 586 at Metro Access/Mall Entrance | Install raised curb along westbound MD 586 approach to Mall entrance to prevent weaving | Partial Mitigation |
| MD 586 at Reddie Drive (future Grandview Drive) | Provide protected-permissive left turn phasing for Reddie Drive/Grandview Avenue and Mall entrance approaches | Full Mitigation |
| MD 193 at Grandview Avenue | Install additional northbound thru lane on Grandview Avenue at MD 193, with additional receiving lane on the north leg | Full Mitigation |
| Grandview Avenue at Blueridge Avenue | Install additional eastbound left turn lane on Blueridge at MD 97 | Partial Mitigation |
| MD 97 at Blueridge Avenue | Install additional eastbound left turn lane on Blueridge at MD 97 | Partial Mitigation |
| Grandview Ave at Ennalls Ave | Install additional northbound thru lane on Grandview Avenue at MD 193, with additional receiving lane on the north leg | Full Mitigation |
| Additional Intersection | Improvement | Extent of Traffic Mitigation |
| MD 97 at Ennalls Avenue | Prohibit eastbound Ennalls Avenue left turns onto northbound MD 97 | Full Mitigation (addresses safety concern) |

Montgomery County Department of Transportation Wheaton Redevelopment

2015 Traffic Study - Project Scope

- Traffic Impact Study conducted in April 2015
- Proposed site includes office building and ground floor retail
 - 265,000 SF of Office
 - 12,000 SF of Retail
- Existing traffic counts conducted in January 2015



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2015 Study Results

- Results at signalized intersections similar for the future condition scenario
- Follow-Up study conducted in November 2015
 - Pedestrian Initiative Timings implemented
 - Adjustments made to improve future LOS at:
 - MD 97 at MD 193
 - Grandview Ave at MD 193

| Overall Level of Service Summary | | | | |
|----------------------------------|-----------|---------------|--------|----------------|
| Intersection | Peak Hour | Existing 2015 | Future | Updated Future |
| MD 586 at MD 193 | AM | E | E | E |
| | PM | E | F | E |
| Grandview Ave at MD 193 | AM | B | C | C |
| | PM | B | C | D |
| MD 97 at MD 193 | AM | D | D | D |
| | PM | D | E | D |
| MD 586 at Reddie Dr | AM | D | D | C |
| | PM | D | D | C |
| MD 97 at Reddie Dr | AM | B | A | B |
| | PM | C | C | C |

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2017 Study Capacity Results

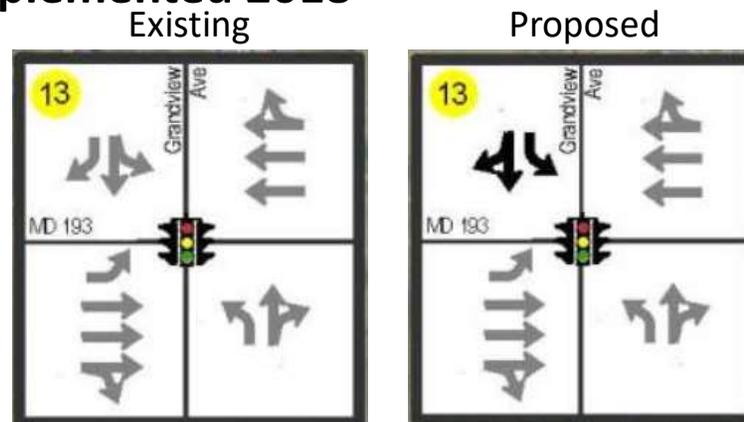
- New Traffic Impact Study conducted due to change in proposed development
 - 308,200 SF of Office
 - 11,800 SF of Retail
- Updated counts conducted in 2017 at all intersections except:
 - MD 97 at MD 193
 - MD 586 at Reddie Drive
- Future analysis assumed realignment of Grandview Avenue at Reddie Drive intersection

| Updated Overall Level of Service Summary | | | |
|--|-----------|---------------|-------------|
| Intersection | Peak Hour | Existing 2017 | Future 2018 |
| MD 586 at MD 193 | AM | E | E |
| | PM | D | E |
| Grandview Ave at MD 193 | AM | B | B |
| | PM | B | C |
| MD 97 at MD 193 | AM | C | C |
| | PM | C | C |
| MD 586 at Reddie Dr | AM | B | B |
| | PM | C | C |
| MD 97 at Reddie Dr | AM | B | B |
| | PM | B | B |

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2017 Study Recommendations

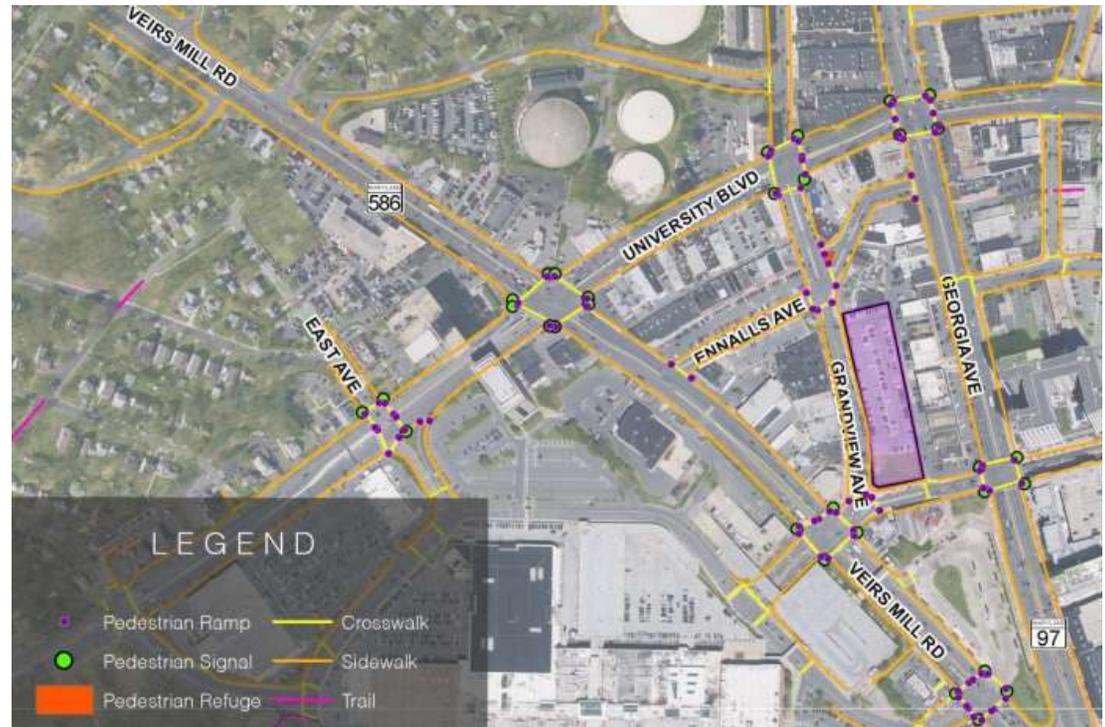
- Exclusive/permissive left turn phasing for:
 - Reddie Drive/Grandview Avenue at MD 586; **Requires Reconstruction of Traffic Signal**
 - Grandview Avenue at MD 193; **Implemented 2018**
- Restripe the southbound approach of Grandview Avenue at MD 193 to a left and a shared through-right; **Implemented 2018**



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Existing Ped/Bike Connectivity

- Sidewalk is available on both sides of each roadway within the study area
- Each study intersection has sidewalk ramps at each corner
- No bike facilities are provided within the study area



Reedie Drive Closure Outcomes

The closure of Reedie Drive will likely:

- Impact operations at some nearby intersections, as additional volumes will reduce operational efficiency; and
- Impact motor vehicle access to Triangle Lane.

Reedie Drive Recommendations

- Move forward with HHS Building opening, as designed;
- Allow Reedie Drive to remain open;
- Study and monitor the “Triangle’s” operational and access impacts for 90 days;
- Close Reedie Drive eastbound between Grandview Avenue and Triangle Lane and reverse one-way travel direction on Triangle Lane to proceed southbound and study and monitor operational and access impacts for adjusted conditions;
- If operations permit, consider a full closure of Reedie Drive between Grandview Avenue and Triangle Lane.